

Abstract

[0024] A flat panel x-ray tube assembly is provided comprising a cathode assembly including a plurality of emitter elements. An anode substrate is included having a substrate upper surface facing the plurality of emitter elements and a substrate lower surface. The substrate upper surface is positioned parallel to the plurality of emitter elements. A plurality of target wells are formed in the substrate upper surface. Each of the plurality of target wells comprises a first angled side surface positioned at an acute angle relative to the substrate upper surface. A plurality of first target elements is applied to each to one of the first angled side surfaces. The first target elements generate x-rays in a direction perpendicular to the plurality of emitter elements in response to electrons received from one of the plurality of emitter elements.